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GENERAL STUDIES (Test Code : 615)

Name of Candidate	SIBI ADHITHYA SENTHIL KUMAR	Registration No.	8502
Schedule	Dec 21 2015	Module	208
Place	CHENNAI	Time	10:00-1:00
Date	12/1/2015		

Classroom [ ] Distance Learning [✓] Classroom & Distance Learning [ ]

INDEX TABLE

Q. No.	Maximum Marks	Marks Obtained
1	12.5	
2	12.5	
3	12.5	
4	12.5	
5	12.5	
6	12.5	
7	12.5	
8	12.5	
9	12.5	
10	12.5	
11	12.5	
12	12.5	
13	12.5	
14	12.5	
15	12.5	
16	12.5	
17	12.5	
18	12.5	
19	12.5	
20	12.5	

Total Marks Obtained

Remarks:

Signature of Examiner

EVALUATION INDICATORS

1. Alignment Competence
2. Context Competence
3. Content Competence
4. Language Competence
5. Introduction Competence
6. Structure - Presentation Competence
7. Conclusion Competence

INSTRUCTIONS

1. Do furnish the appropriate details in the answer sheet (viz. Name, ID Number and Test Code).
2. There are TWENTY questions printed in ENGLISH.
3. All questions are compulsory.
4. The number of marks carried by a question/part is indicated against it.
5. Answers must be written in the medium authorized in the Admission Certificate, which must be stated clearly on the cover of this Question-cum-Answer (QCA) Booklet in the space provided. No marks will be given for answers written in medium other than the authorized one.
6. Word limit in questions, if specified, should be adhered to.
7. Any page or portion of the page left blank in the Question-cum-Answer Booklet must be clearly struck off.

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Overall Macro comments / feedback / suggestions on Answer Booklet:

1.

2.

3.

4.

5.

All The Best

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All the questions are compulsory and carry 12.5 marks each.

1. There has been a great deal of soul-searching in India over the fact that none of its universities make it to the top 200 of the World University Rankings. What can be the reason behind such performance by Indian universities on the global level? Is it justified to evaluate Indian universities on the basis of parameters involved in such rankings? What changes are required to improve their performance in the context of global rankings?

✓ India boasts one of the largest intellectual workforce in the world yet we do not find our universities in the top global scale.

Reason for poor performance :-

(i) Narrow view of education :-

✓ The Indian system still follows Macaulay's system that focus on rote learning rather than quest for knowledge. This results in graduates being produced who lack skills for the industry.

(ii) Out-dated curricula :-

✓ Our curriculum glorifies and promotes exams which is a mark-oriented approach. This emphasis on content and neglect of creativity and critical thinking has affected us badly. This is why we do not have as many innovators

(iii) Commercialisation :-

✓ Many of our institutions are run by politicians and businessmen who use it as a channel for black money. Therefore, there is

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not much focus on education. Seats in reputed institutions can easily be bought with capitation fees.

(iv) No-merit based appointments :-

- It is a pity that 'educationists' are not running the institutions. Vital posts such as Vice-chancellors are politically backed appointments. The position of governor as chancellor itself needs to be changed.

International ranking system :-

- International rankings do not reflect Indian realities as we have various factors such as caste system and reservation.

The way forward :-

- The government's announcement to develop its own national ranking system is a welcome move. The rankings will stimulate competition and aspire universities to raise their standards.

- However, it requires real and relevant data to create such a ranking system. Experience from other countries show that it is not an easy move.

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- A very basic problem in our country is the lack of data on many aspects of higher education. Basic data itself has many limitations. Only when we have proper set of data, our rankings will have value.

- It should be taken care that all the affiliated colleges to universities are also included in the rankings. We also need to create a suitable index for comparing our research journals with the western system.

- We should work towards establishing a tradition of institutional research that takes care of the ranking system & data collection.

- There are lot of areas that need to be addressed to revitalise our education system. Establishing a ranking system would be a good start.

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2. While difference in opinions exist between the State agencies and the Voluntary Organizations, the State recognizes the need to preserve, protect and nurture an enabling environment for the development of the Voluntary sector. Explain in context of the National Policy on the Voluntary sector.

✓The National policy on voluntary sector aims to create an enabling environment for voluntary organizations (VO) that not only stimulates their effectiveness but also protects their ~~ow~~ identity and safeguards their autonomy.

✓ It also seeks to make the VOs accountable so that they can play a constructive role in the development activities.

✓ The policy ~~this~~ gives VOs their independence. This will ensure that they act as critical watchdogs of the government. They can challenge forces that may work against public interest and find new ways to address social issues.

✓ The very purpose of the policy has given recognition to the VO sector. It will enable them to work in a more transparent manner. However, if there is over-regulation of organizations, their effectiveness will be reduced greatly.

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✓ The funds received by VOs have always been a source of controversy. Many believe that they are a channel of black money or agents of foreign interests. The policy seeks transparency in management of funds received from various sources.

✓ The corporate sector has started giving more donations to the voluntary sector and the policy has recognised it in the form of sops like tax rebates. The policy proposes continuing fiscal concessions and suggests that the government streamline the system for granting tax exemptions to charitable projects

✓ Voluntary organizations have been a vehicle of societal development in our country. They seek to bridge the gap between the common man and the government reducing the governance deficit. The policy gives a new dimension to the relation to the working between government and voluntary sector.

✓ For creating an enabling environment, the policy seeks to create a consultative mechanism between various ministries to foster dialogue processes.

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The State must ensure that its approach is not interventionist and rather encouraging in nature. opting for co-operation with control.

Good governance practises must be implemented to facilitate the relation between government and NGOs and further the development of our country.

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3. "Healthcare is a right, not a privilege". Should the right to healthcare be made a fundamental right in India? How far can the private sector help in achieving this aim? Comment in the light of debate on the Draft National Health Policy 2015.

India's poor health indices are a cause of concern. We are not in track of meeting the millenium development goals. The State, with an obligation to take a more proactive role has come out with the Draft National Health Policy 2015.

Fundamental right:-

✓ Art 21, ~~wh~~ talks about the right to life and it is obvious that without access to health, a person cannot lead a dproper life.

✓ The policy seeks to leverage economic growth to achieve health outcomes and understands that better health contributes to immense productivity. So, the move to make health as a justiciable right is welcomed

✓ The move to constitutionally guarantee the access to health will ensure effective implementation, better delivery of services and more accountability.

✓ So, The right to healthcare cannot be treated as a privilege.

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Role of private sector:-

- The policy aims to attain the highest possible level of health and universal access to good quality healthcare without having to face financial hardship. The government cannot do this alone and needs the support of private sector.
- While the public sector will focus on preventive and secondary care services, the recommends contracting out services like ambulatory care, imaging and diagnostics, tertiary non-medical care to the private sector.
- The private sector today nearly provides 80% of outpatient care & 60% of inpatient care.
- Most of the sector is own-account enterprises which are not regulated properly. This concern needs to be addressed.
- private sector engagement would largely take the form of purchasing care from private hospitals on a reimbursement - against cashless services. This payment would be made by State health assurance agency.

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- Both public and private sector should play a complementary role - private sector has to be given policy guidance & regulatory mechanism to orient them towards public health goals.
- Another possibility is to contract out primary facilities to not-for-profit organizations where government has a limited role. Domain-specific specialized services can also be leased out to private sector.
- private sector needs to be incentivized to conduct R&D for the aims of public health. They must also be encouraged to adopt images to serve the purpose.

The health policy is a welcome move and multiple stakeholders must co-operate together in order to achieve the objective.

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4. Charities and CSR are methodologies through which the rich and the big corporates "give back" to the society, rising above their sole profit motive. In this context, critically analyse the effectiveness of the CSR measures in India.

- Corporate social responsibility tries to bring an overall positive impact on their communities and environment. CSR is based on the fact that not only public policy but also corporates should be responsible to address social issues.

- India has one of the oldest traditions of CSR but they have become just a namesake for the companies without any real care. Though a lot of initiatives have been taken up to promote CSR, it is yet to receive widespread recognition.

- With the advent of western companies in the era of globalization, not much care is being given to the local communities with whom they do not have any bondage.

- The lack of a proper policy may be attributed to the lacklustre performance of CSR in India. However, it could change with the Companies Act, 2013.

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Companies Act :-

✓ The Act stipulates that any company having a net worth of Rs. 500 crore and above or a turnover of Rs. 1000 crore + or a net profit of Rs 5 cr + should compulsorily spend 2% of their net profits on CSR activities.

✓ This fund can be used to address basic social issues (or) support development projects initiated by the central government

Many companies do not create a separate CSR department and prefer to partner with NGOs. Most NGOs have political patronage and no real good is being done on the ground.

✓ Many corporates in India such as Wipro, Tata and Reliance have foundations that engage in philanthropic activities. But the results are not positive.

✓ Another possible solution is creative capitalism. Companies must be encouraged to address social issues in their line of activity as This will have a better impact rather than just spending money.

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- The New Act also ensures a proper monitoring system that was previously lacking. They are required to now review the progress made on CSR activities.

- CSR is also a win-win situation. On one hand, social problems are alleviated and on the other, corporates avail goodwill and reputation.

- There is no doubt about the positive impact corporates will have in addressing the social problems. Partnerships between companies and government should be encouraged in schemes like Swacch Bharat Abhiyan.

- This will only further the pace of socio-economic development in India

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5. Policies should work not only towards reducing the number of people below the poverty line but also ensuring that people do not suffer from multiple deprivations. Critically examine the above statement in the light of methodology adopted to measure poverty in independent India.

✓ The activity of poverty measurement has been fraught with challenges and inception and we are yet to formulate a perfect standard.

✓ The Planning Commission acted as a nodal agency for the estimation of poverty. The incidence of poverty is measured by poverty ratio.

1962 - Working group:-

✓ The working group had recommended the national minimum consumption expenditure at Rs. 100 and Rs. 125 for rural and urban areas for a household of five persons. It excluded health & education expenditure as it was assumed to be provided by the State. This was a lacuna as the state had not enough resources to implement the welfare measures.

1977 - Alagh

The Alagh task force produced a quantitative measurement of poverty by estimating average calorie requirements. It did not take into account other major deprivations faced by the people.

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1993 - Lakdawala :-

This used state-specific poverty lines for the first time and hence it accurately captured the cost of living in many states. It also used the state-wise consumption distribution of NSS without any adjustment to NAS consumption.

Tendulkar report :-

The fundamental difference between this approach and the previous ones was that it focused not only on food but also other services such as health, goods, education and entertainment.

But it had overlooked inclusion of the marginalized sections of the society and had also reduced calorie consumptions.

Rangarajan committee

The Rangarajan committee proposed to revert back to to the idea of having separate all India poverty line baskets for rural and urban areas.

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- It can clearly be seen that the methodologies ~~do~~ are not holistic in nature and suffer from one limitation or the other.
- We must focus on creating a method that takes a comprehensive measure of what it would take to satisfy a person's basic needs - empowerment line. It should be the level where the citizens can get out of poverty and have the resources to build better lives for themselves rather than scrape at subsistence levels.

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6. "If district and regional councils are keys, then Governor is the master key". Critically analyse in the context of the Sixth Schedule of the Constitution.

✓The Sixth Schedule of the constitution deals with administration of tribal areas in four northeastern states of Assam, Meghalaya, Tripura and Mizoram.

✓ The tribes in these states have not assimilated in the life and ways of other people in these states. On the other hand, the tribals in other parts of India have more or less adopted the culture of the majority of the people.

✓ These areas are hence treated specially by the constitution and to give it a constitutional enforcement, the governor is empowered accordingly.

Role of governor :-

The governor is empowered to organise and re-organise the autonomous districts. He can also divide the district into several autonomous ~~ds~~ regions depending on the number of different tribes living there.

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✓ The acts of the parliament or state legislatures do not apply to autonomous districts and regions ~~as~~ or they apply only with modifications. So, the governor holds the key in these areas.

✓ The district councils can make regulations for control of money lenders but they require the assent of the governor.

✓ Further, he can also appoint a commission to examine & report on any administrative matter of autonomous districts. He also has the power to dissolve a district or regional council on the recommendation of commission.

✓ The laws made by the councils on specified matters also require the assent of the governor. Further, he determines the jurisdiction of high court over tribal suits and cases.

Thus, in order to safeguard the interests of tribals, the office of governor is vested with executive, legislative, judicial and financial powers.

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7. The developmental model in India should include rural development schemes that are "demand driven" rather than "programme driven". Examine with respect to the design of various social sector schemes.

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8. The Government recently approved the National AYUSH Mission. What are the key benefits that India can derive from it? Discuss along with challenges that are anticipated in its implementation.

✓ The National AYUSH Mission seeks to address the gaps in health services by supporting the efforts of governments, particularly in vulnerable & far-flung areas.

✓ The mission will help improve Ayush education through enhancement in the number of upgraded educational institutions

✓ Ayush services are not widespread in the country and the mission seeks to provide better access to services by increasing the number of hospitals and dispensaries. The availability of drugs and manpower will be increased.

✓ To achieve this, there will be a sustained availability of raw materials to prepare Ayush medicine.

✓ By increasing the number of pharmacies and laboratories, availability of medicines and quality will be increased manifold.

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- Bringing under a mission will facilitate in focused attention and allocating higher resources so that the objectives can be duly realized.
- Ayush is a good example of the vital heritage systems of our country which possesses untapped treasurehouse of knowledge.
- The mission will help realize the full potential of this knowledge and reach it to a wider mass of people.
- Another advantage is the diversity & flexibility and affordability which makes it readily accessible.
- Traditional systems also will have an easier acceptability by rural people as compared to western medicines.

Challenges :-

- However, there are many challenges facing the system. Nowadays, people with serious ailments do not opt for the Ayush system as they lack trust in it.

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✓ Due to absence of a well regulated system many quacks have emerged which further erode the confidence people have in these systems. Standardisation of degrees needs to be brought.

✓ ~~Do~~ People do not take up as a career choice due to less pay and scope for development. More incentives need to be brought in.

✓ Some ayush hospitals face a delay in drug availability that affects poor patients.

What needs to be done?

✓ The government needs to ensure the mission with proper implementation and efficient enforcement and accountability mechanisms by involving multiple stakeholders.

✓ Initiatives like Ayush-Isha, a NGO - Government collaboration can be introduced in various parts of the country.

✓ The Ayush system is one that offers huge potential that needs to be utilized properly.

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9. Though the latest Global Hunger Index report of the International Food Policy Research Institute (IFPRI) shows considerable improvement in India's hunger index and this is a source of encouragement, yet a large number of people in India remain hungry. In this context discuss if there is need for a National Authority on Hunger Elimination with adequate financial and administrative powers in India.

✓ The global Hunger Index report has ranked India 55th out of 76 countries and it is a considerable improvement from 63rd place last year

✓ However, India's hunger status is still classified as serious and we lag behind countries like Nepal and Sri Lanka. There are nearly ~~350~~ 350 million hungry people in the country.

✓ One of the MDGs is related to eradicating poverty and extreme hunger. But India has not achieved substantial results. So, a need arises for National Authority on Hunger Elimination.

✓ In spite of remarkable economic growth, high levels of food production & technological developments, millions of people remain hungry It is estimated that at current trend, India can reduce hunger only marginally over the next two decades. This reflects inadequate attention being given to hunger related issues.

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✓ The long-term implications of the currently underweight children are severe. It will affect development and we cannot realize the potential of demographic dividend. Hunger and health are closely related to poverty and unless they are tackled, it is not possible to achieve development.

✓ A NAHE needs to be established that has adequate funds and exclusive powers - administrative and financial and enhanced human resources solely dedicated with the purpose of making india hunger free.

✓ It must function as a high power co-ordinating unit with various ministries concerned - food and agriculture, health, education etc. Focused attention will result in efficient target management. It must be an empowered authority to co-ordinate with all states.

✓ proper incentives must be given to research organisations and universities to conduct projects on hunger-based issues in a holistic manner. The scientific community can help in achieving this objective.

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- A fund needs to be established that will collect money from various sources - MLAs, MPs/ CSR / NGOs / NRIs etc that will contribute to states depending upon the magnitude of their problem.
- Strong political will and dynamic leadership is also essential.

Existing schemes have failed to achieve the desirable targets. The country needs an authority dedicated solely for hunger elimination by involving multiple stakeholders otherwise, our dream of becoming a developed nation will remain so.

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10. Bureaucracy has a love-hate relationship with democracy. As a servant it is invaluable but as a master it can ruin us. Discuss in light of relationship between democracy and bureaucracy in India since independence. Also, examine the ways in which the democratic credentials of the bureaucracy can be strengthened.

The Indian civil service, the pioneer of bureaucracy ~~of~~ in India had established a reputed institution on the global level. The relation between bureaucracy and democracy has undergone many changes since independence.

, At the time of independence, the IAS ~~had~~ was merely a continuation of the ICS. The nascent country needed the help of experienced bureaucrats for administration and they were rightly called as the steel frame of India.

, However, instead of gradually incorporating democratic elements, the character of bureaucracy was maintained and it has assumed all-encompassing responsibilities. Instead of serving the people, they have turned into an elite group of people.

, As a servant of ~~bureaucr~~ ~~democracy~~, bureaucracy has a very vital role to play especially in developing countries. They are responsible for translating the policies and

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programmes formulated by the executive on the ground level. The quality of citizen's life depends on the attitude and performance of bureacracy. They are responsible for delivering public services to the marginalized sections of the society.

✓ As we moved towards decentralization with the 73rd and 74th amendments, bureacracy did not cope up with the changing dynamism. It ~~off~~ becomes a stumbling block for elected representatives in local governments and retains an unhealthy control of the state over the local governments

✓ Due to insecurity of tenure, the nexus between bureaucrats and politicians have grown in in huge proportions. So, the commitment towards serving people takes a backseat where they work according to the whims and fancies of politicians.

✓ Today, however, with growing need for accountability and suitable mechanisms, bureaucracy has become more people-centric.

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Strengthening democratic ideals :-

- A good starting point would be to usher in the practises of good governance. where there is respect for rule of law, special care for disadvantaged and being more tolerant and broad minded.
- Accountability mechanisms along with performance monitoring should be enforced so that the public get what they deserve.

The progress looks good with bureaucracy adopting a more democratic outlook. There is a reason why bureaucrats are called civil servants and it must remain so.

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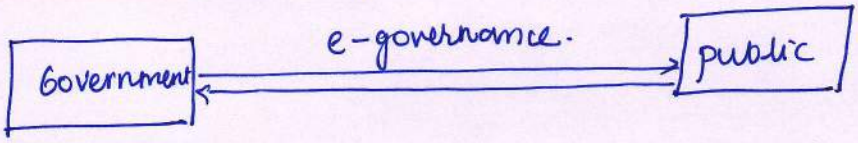
11. Digital India programme has the potential to not only transform the citizen service delivery, but also provide the much needed impetus for key social and industrial sectors. Examine.

✓Digital India is a programme that aims to transform India into a digitally empowered society and knowledge economy. It ~~en~~ will ensure that government services are available to citizens electronically

citizen service delivery :-



✓By mandated delivery of government services electronically, public accountability will be strengthened. Infrastructure will be ~~attac~~ made a utility for every citizens. There is a move to make high speed internet a core utility in all gram panchayats.

✓ people will be given a lifelong ~~di~~ unique digital identity that will help them access all government services within their locality. It improves ease of access and also brings in transparency since the citizen directly deals with the government.

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The program also seeks to make citizens digitally empowered. citizens will get universal digital literacy whereby they can also involve in participatory governance on a digital platform. All government documents/ certificates will be available on ~~out~~ the cloud on all Indian languages that the public can access.

Social & Industrial sectors:-

The programme has immense potential to change the dynamics of various sectors in our country.

- We can use this to build a robust & reliable health information system. The ~~dat~~ details of all doctors and patients will be made available in a single database and can be used for effective treatment & delivery of services.
- Rural communities can avail this opportunity to propagate their numerable heritage and ensure that its traditions are empowered.
- In the coming years, India is expected to become more urbanized. A digitally empowered India will provide more fillip to e-commerce companies to penetrate into far flung areas.

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people will become financially empowered as they can use their knowledge in varied sectors providing a boost to the economy.

The government must engage in public-private partnerships for last mile connectivity to ensure the potential of the programme is realized.

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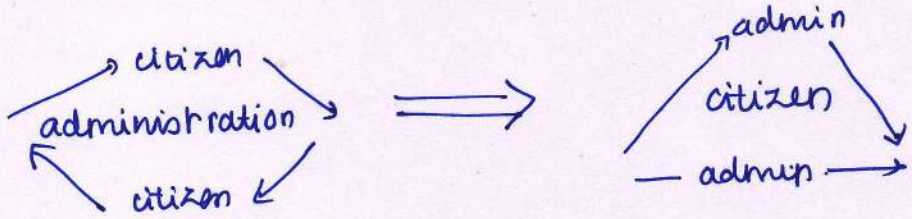
12. Citizens' participation in governance embodies a shift in the development paradigm from citizens as passive recipients to active participants in the development process. What are the different mechanisms for citizens' participation in the development process? Illustrate.

For long, citizens were treated as the periphery in the administrative process. But with ideals of good governance being implemented, there is a move towards citizen centric governance



Decentralisation :-

- The 73rd and 74th amendment created local bodies that took care of its own development process. In a large country like India, development must begin at the grassroot level, whereby people can make decisions for themselves.

Civil societies organisations :-

- Previously, government alone was the chief policy planner and implementor. But it was realized that the benefits were not trickling down to major sections of the society.

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CSOs like NGOs have become one of the major implementors of public policy. They also act as a voice of democracy ~~by ensu~~ and ensures that the government acts according to the will of people.

RTI :-

- The RTI Act is a powerful tool that ensures accountability and transparency from the government. The government can no longer take arbitrary decisions and citizens have a right to get information.

E-governance initiatives :-

- E-governance has changed the dynamics between citizens and government. citizens can actively interact with the government regarding their grievances. Initiatives like mygov.in encourages citizens to actively take part in various developmental activities.

PIL :-

- public interest litigation is an important judicial tool in the hands of people. It can be used to check the goverment if it goes against the wishes of people.

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India is moving towards an age where citizens play a very active role in the developmental process. It ~~only~~ strengthens the democratic ideals of our country.

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13. Critically comment on some of the important provisions of the proposed Road Transport and Safety Bill, 2014. Do you think imposing hefty penalties on traffic rule violations can ensure road safety? Discuss.

✓ The Road Transport and Safety Bill 2014 seeks to provide for safer, faster, cost effective & inclusive movement of passengers and freight in the country.

✓ The bill has ~~come~~ been introduced due to increase in road casualties. One accident occurs every minute and one death every four minutes.

Important provisions:-

✓ It sets up two new statutory bodies - Motor Vehicle Regulation & Road Safety Authority of India & National Road Transport & Multi modal co-ordination Authority. They will set up regulations, finance road safety programs and will be accountable to parliament.

✓ This will ensure a robust system of laws that are properly enforced.

✓ Unified Driver Licensing system - This will avoid duplication by the use of a biometric system. corruption and agents problem will be avoided with automated driving tests. The license work can be sourced to private companies but it remains to be seen whether it will fall under the purview of RTI.

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Goods Transport and National Freight policy -
It will create simplified permits and single portal clearances. It will also develop freight networks throughout the country. Due to cheaper transport cost, it will help reduce inflation

Punishments:-
- One of the salient feature of the bill is its increase in severity of punishments for various types of road offences. such as rash driving, alcohol influence, causing death of child etc. It is estimated that 2 lakh deaths will be reduced in the next five years due to hefty punishments.
- The fines have kept in a uniform system with considering the income inequalities in various towns and cities. Fines should be normalized based on the cost of living of that particular area.
- Fines alone will not help in solving the problem. ~~Incr~~ Improvement in road designs and efficient public transport systems, good pathways for pedestrians will alleviate the problem further.

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- The amount of hefty fines will increase under-reporting as the fine amounts are larger than the salaries of many drivers. The penalty amount has to be set considering India's per capita income. We can opt for a system to levy fines (as followed in Sweden) according to the net income of offender.
- The Bill has tackled the issue of road safety in a holistic manner. Imposing heffy fines is a good way to reduce accidents but there must be proper enforceability mechanism. Also, road design, infrastructure and environment needs to be suitably developed.

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14. "There is an urgent need to institutionalize social audit for major welfare schemes as a large part of the government's budget is spent on them". What are the benefits of social audit? Citing relevant examples, bring out the loopholes in its implementation. Also, suggest some measures for its improvement.

✓ Social audit is a process of reviewing official records and determining whether state reported expenditure reflects the actual money spent on the ground. It has become very important to prevent mass corruption in schemes like PDS, MGNREGA, etc.

RTI + Public hearing
⇓
Social audit

✓ Benefits :-

✓ It encourages involvement of people in developmental activities and this will ensure that the money is spent where it is actually needed.

✓ This ~~ultima~~ accountability mechanism helps in the reduction of wastages and corruption on a large scale. It ensures that the welfare schemes of the government translates as benefit for the people.

✓ Since people get better living standards, it promotes a integrity and a sense of community among people. It also strengthens the relation between government and people by building more trust.

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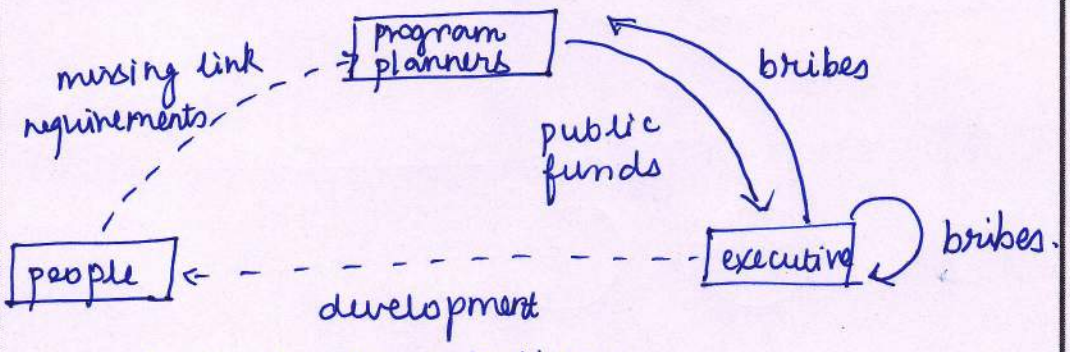
✓ Schemes such as this creates an awareness among people and they can demand what is their right. In other words, it further strengthens democratic credentials.

Without social audit, the following would happen:



Loopholes in implementation :-

✓ Let us assess the loop-holes in the working of social audit in MGNREGA scheme in Anantpur district of Andhra-pradesh.

✓ Even if a state government publicly announces regular social audits, the first round of auditing, due to limited state credibility fails to take transgressors by surprise and hence does not reveal any irregularities.

✓ Despite an increasing awareness of beneficiaries, the mal-practises were not reduced. This is because of an underlying change in the way corruption works.

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- One main reason is that the follow up and enforcement of punishments are weak. There are no legal principles to follow up on social audit principles. There must be a regulatory framework to ensure it is properly implemented.

Measures:-

- The first step is to institutionalise the mechanism of social audit in major welfare schemes of the country. Through citizen charters and effective propaganda about RTI, people must be made aware. E-governance can be implemented to usher in transparency & accountability.

Social audits are the best tool to reduce the disconnect between what the government thinks & does. It needs to be strengthened to improve the delivery of public programmes.

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15. "Though e-governance has facilitated the collection of taxes it has not provided any control over how the tax money is utilized". In this context, discuss if the problem in India is not of e-governance deficit but of governance deficit.

- The issues pertaining to tax have always been under scrutiny in our country. It is the major source of revenue ~~of~~ for the government which translates itself into development. Therefore, both tax collection and utilization plays a major role.

Tax collection:-

- For years, manual methods were used for tax collection and hence only very little revenue was generated. Nowadays, e-governance measures have been introduced where citizens can easily pay according to their convenience. This has not only increased public ~~confidu~~ convenience but also efficient tax collection system.

- However, our tax collection stands very low ~~to~~ on the global scale. We need to bring about strong tax evasion laws so that revenue is not lost for the government. Also, we need to focus on indirect taxes that are reliant on transactions.

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Governance deficit:-

- We have tried to tackle the issue at the bottom of the pyramid - ie citizens paying taxes. However, there is no mechanism to ensure that tax money is properly utilized.

- There is no proper accountability mechanism to ensure that the taxes are properly utilized. The government can decide to allocate it to any scheme as it pleases, not necessarily translating into the welfare of citizens.

- The government needs to be transparent in the methodology the money is being spent. Though the budget outlines the governments' ideals, the efforts are not translated into ground reality.

- There must be political will to ensure that there is no governance deficit taking place in the top brass of the country.

India needs to strengthen the ~~to~~ tax collection methods and also an efficient and transparent utilization system if it aspires to become a developed country.

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16. The dream of making India a global manufacturing hub in a highly competitive world economy cannot be realized in the absence of a sustainable skill pool. Examine the structural and functional constraints w.r.t. skill development programme in India.

✓India will possess one of the largest working population in the coming decades and it must fully utilize the potential of this opportunity.

✓every year, 12 million Indians join the workforce but only 10% of them are skilled. By 2020, developed nations will face a severe shortage of workers and they have to outsource their work elsewhere. In order to make India as a viable manufacturing hub, we need a cheap and skilled workforce. The Din Dayal Antyoda yojana will help in realizing this objectives. However, there are many constraints regarding the skill development programme.

✓ There are now 22 ministries that are running parallel schemes for skill development. In addition to this, States have also created their own skill development missions. Each of these have different norms of eligibility criteria and process mechanisms. This leads to resource wastage, while some beneficiaries will get multiple benefits for undergoing the same type of training.

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- There are four types of skill development that have been identified. - freshers, re-skilling, recognition and college. So, skill development must take into all the aspects and a holistic definition needs to be formed that encompasses all stages of skill development.

- Measuring outcomes is an important parameter in determining the success of a programme. So far, the outcomes measured are the number of people who got training and the money spent. But we must incorporate outcomes that have realized the true objectives of the scheme - the number of people who got a job, the period for which he/she was able to sustain the job and whether there was an increase in income after the skill development.

- Government must also not release funds solely based on outcomes. Instead, it has to perform a time study and cost study on the particular program. Then the costs can be decided on 'per trainee, per hour basis'. This will be a more rational way of utilizing the funds.

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- In order for the programme to succeed, both teachers and students have a very large role to play. The teachers should be motivated with incentives and bonus depending on the outcomes. Trainees must be made aware of the importance of such programs.
- There must be a management information system and unique identification to track beneficiaries. Social audit can be permitted to check corruption and bogus beneficiaries
- The government must play an active role in bringing tribals and other marginalized sections of society and hone their traditional skills.

The Skill Development programme needs to take a holistic approach involving multiple stakeholders to make India a manufacturing hub

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17. Hithertho, healthcare policy in india has turned a blind eye towards neo-natals. In light of the above statement, examine the constraints faced and the steps taken to tackle the problem of neo-natal mortality in India.

✓India has the leading number of neo-natal deaths (0-27 days) in the world, accounting for nearly 30% of the casualties. Though steps have been taken, India's reduction rate is very appalling - just 2.6% over the last two decades. The government has also tried to come out with various interventions to tackle the problem.

Institutional deliveries :-

✓ The first major step taken by government has been the promotion of institutional deliveries by providing conditional cash transfer. In addition, women delivering in government institutions are guaranteed free drugs, diagnostic tests, diet & transport to healthcare.

✓ The coverage of institutional deliveries have increased from 40% to 70% over the past five years and it has resulted in a reduction of NMR.

✓ However, the rate of reduction fails to reflect in the increase in institutional deliveries.

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- Though institutional deliveries are as high as 63% and 53% in MP and Odisha, the NMR is still very high.

One of the main reasons is the quality of skill training for health workers. This lack of professionalism has had an adverse effect.

Multi-deliveries by women at very short intervals has deteriorated the health of women making them unfit for healthy deliveries. This issue needs to be tackled by providing family planning education to women so that they have adequate spacing between births.

- The government has also taken the initiative of ASHA workers coming to home and educate mothers on breast feeding. Greater attention should be focused on providing breastfeeding within an hour of birth as it can save 14% of the children

- One major cause of high NMR is the increase in preterm births. The cause for it is also not known properly. But by preventing adolescent pregnancy, medical care providing and reducing gap between two deliveries, it can be reduced.

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- It is also to be noted that NMR did not reduce as much as IMR or MMR over the last decade. One of the reason is that it did not feature in the MDG and did not get adequate attention.
- The need for proper intervention measures cannot be stressed enough. children are an invaluable treasure to the country and we must not lose them. The government must collaborate with various civil society organizations to tackle the menace.

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18. The four main priorities for education policy have been Access, Equity, Quality and Governance. New education policies should continue to prioritise these four areas, however, there must be greater emphasis on improving learning outcomes at all levels. Discuss.

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19. Global Hunger Report (2014) pointed out that the challenge to problem of malnutrition not only includes 'hunger' (lack of food) but also 'hidden hunger'. Define hidden hunger. Give suggestions to address these challenges along with policy interventions undertaken by the government in this regard.

- Hidden hunger is a chronic lack of micro-nutrients such as vitamins and minerals that often has no visible warning signs, so that people who suffer from it may not even be aware about it.
- The effects of hidden hunger are very severe - it can lead to mental impairment, poor health and productivity, or even death. One in three people in the world suffer from hidden hunger. Women and children in the low income group of developing countries are the most affected.
- During adolescence and pregnancy, higher amount of micronutrients are needed but people lack either in money or awareness to prevent the menace
- In order to combat widespread deficiencies in iron, India is taking steps to promote iron rich crops such as pearl millet which is rich in micronutrients and can be grown in low rainfall, high temperature regions also.

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✓ Breeding more nutritious crops is only a part of the solution to tackle hidden hunger. growing a diversity of nutritious crops will help boost household nutrition. Local people are very important and community groups comprising of village volunteers must address the issue within their community.

✓ Agricultural measures such as improved varieties and biofortification will be good solutions in the long run. Supplements to micronutrients can also be provided at subsidized rates in the short term.

✓ Education programs and awareness must be created on a mass scale to address this issue on the national forefront. The PDS system can be reformed to include more micronutrients. This will reach a wider section including the marginalized groups.

✓ usage of iodized salt and fortified salt will be useful in tackling ~~iron deficien~~ iodine deficiency.

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✓ The National Nutrition Mission seeks to address malnutrition among women and children under the age of three. Micronutrients should be given greater focus under the scheme.

✓ Weekly Iron Folic Acid Supplementation is also a welcome move that needs to be aggressively pushed.

There is an urgent need to tackle the issue of hidden hunger because it is linked with the economy and is necessary for the development of the country.

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20. What are the key concerns raised by the recent casualties at sterilization camps in Chhattisgarh? Identify the changes that can be instituted to make the family planning initiatives in India both safe and effective.

The recent casualties at the chattisgarh sterilisation camp has thrown light on the poor standards and procedures followed.

Operating procedures:-

- It is obvious that standard procedures were flouted. A single doctor and health worker had carried out all the procedures in the camps. According to proper procedure, a surgeon can carry no more than 30 tubectomies on a given day. It is revealed that 83 procedures have been carried out.

Targets:-

- Another reason for the rampant number of operations is pressure to meet sterilisation targets. Government has increased the compensation amount paid to doctors and women and hence women would not be counselled in the real future.

Gender bias:-

- Males hardly opt for the sterilisation procedure. Though they get nearly double the compensation amount of women, it has not worked as an incentive.

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Tribal problem :-

- Many of the women who died in the camps were tribals who were literate. But they were not educated enough to know the problems arising from unsanitary conditions or stand up to a doctor to prevent him from conducting the operation.
- Another problem is the overwhelming focus on sterilisation and hence less than 1% of families use pills and condoms.
- unsafe and unethical camps are being conducted where the women are exploited. There are no pre-operative screenings or post follow up operation.
- There is also a possibility that incidents like this can affect medical tourism in the country due to the negative perception.

Strategies :-

- Men must be made aware and encourage to take up no-scalpel vasectomy method which has safe and has no side-effects or complications. Men must also be urged to share the task of population control.

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✓ The camp method of sterilisation needs to be stopped as it compromises on hygiene. Care must be taken to ensure good quality medicines and sterilized equipments.

✓ competent medical care must be provided for women who develop complications after the surgery. The practise of giving incentives to meet targets must be reviewed and a proper enforceability and accountability mechanism be put in place.

✓ There must be proper counselling for women and she must be informed of her choices & her consent must be taken.

The tragedy has been a real eye-opener. We must concentrate on building a robust health care system. The Draft National Health policy can also address these issues.

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GENERAL STUDIES (TEST CODE : 616)

Name of Candidate	SIBI ADHITHYA SENTHIL KUMAR	Registration Number	8502
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Center	DISTANCE LEARNING (CHENNAI)	Date	31/01/2015

INDEX TABLE

Q. No.	Maximum Marks	Marks Obtained
1	12.5	
2	12.5	
3	12.5	
4	12.5	
5	12.5	
6	12.5	
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17	12.5	
18	12.5	
19	12.5	
20	12.5	

Total Marks Obtained:

Remarks:

Signature of Examiner

INSTRUCTIONS

1. Do furnish the appropriate details in the answer sheet (viz. Name, Registration Number and Test Code).
2. There are TWENTY questions printed in ENGLISH.
3. All questions are compulsory.
4. The number of marks carried by a question/part is indicated against it.
5. Answers must be written in the medium authorized in the Admission Certificate, which must be stated clearly on the cover of this Question-Cum-Answer (QCA) Booklet in the space provided. No marks will be given for answers written in medium other that the authorized one.
6. Word limit in questions, if specified, should be adhered to.
7. Any page or portion of the page left blank in the Question-Cum-Answer Booklet must be clearly struck off.

EVALUATION INDICATORS

1. **Alignment Competence**
2. **Context Competence**
3. **Content Competence**
4. **Language Competence**
5. **Introduction Competence**
6. **Structure - Presentation Competence**
7. **Conclusion Competence**

Overall Macro Comments / feedback / suggestions on Answer Booklet:

1.

2.

3.

4.

5.

6.

All the Best

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All the questions are compulsory and carry 12.5 marks each. NOT MORE THAN 200 WORDS.

1. Even though the equatorial regions have great potential in timber resources, the lumbering industry has not developed properly in these regions. What could be the possible reasons behind this? Discuss the suitability of the equatorial regions for plantation agriculture.

The equatorial regions have high temperature and abundant rainfall (150-250 cm/annum) that supports luxuriant growth of timber. However, the industry has developed more in temperate than the tropics.

Why the industry failed?

✓ The trees of equatorial regions are not found in pure stands; rather, they are scattered in nature. This heterogenous supply of timber has made cost of commercial exploitation very high.

✓ The tropical hardwoods do not float readily on water and this makes haulage expensive. Inability to construct proper land transport due to dense vegetation only augments the problem.

✓ Most equatorial countries have sparse settlements and their economies are not industrialized. Lack of capital and human labour has also hurt the industry.

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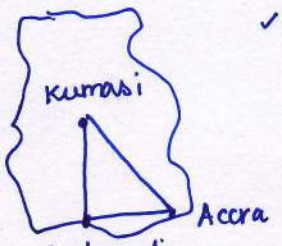
✓ The slash and burn agriculture followed in these parts has also left the jungles permanently destroyed.

Potential for plantations:-

✓ A plantation is large piece of land where one crop is intentionally grown for commercial uses: eg: banana, coffee.

Let us take the cocoa plantation in Ghana - an equatorial region.



(cocoa triangle)

✓ There is warm and wet climate that supports the growth of cocoa.

✓ Lot of cheap labourers will be easily available in these regions (tumbadors). The Takoradi port is used to export to the western countries.

✓ Recent chinese and Indian investment in these regions will only help in growth of industry.

✓ Similarly, rubber and banana plantations are found widely in equatorial regions.

✓ With suitable market and infrastructure facilities, the industry has great potential to grow in equatorial regions.

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2. Lakshadweep has been facing a drastic decline in coral cover in recent years. Discuss various environmental and anthropogenic factors behind this phenomenon. How can El Nino be disastrous for the world's coral reefs? Illustrate.

✓ The Amindivi, Laccadive and Minicoy islands form the coral islands in Arabian sea. These islands have been built by corals and have fringing coral reefs close to their shores. It is reported that Lakshwadeep has lost 80% of its coral cover.

Environmental factors :-

✓ Temperature – coral species live in a narrow temperature margin (20°-21°c). Due to elevated sea temperatures (or) sudden drop due to upwelling, corals die unable to handle the stress.

✓ Solar irradiance during summer months causes bleaching in shallow-living corals.

healthy coral ⇒ bleached coral

✓ During storm generated precipitation, fresh water dilution has resulted in coral bleaching.

✓ Some pathogens have been responsible to induce coral diseases such as black band disease, coral plague etc.

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Anthropogenic factors :-

✓ There is swelling population in Lakshwadeep islands. Population density is increasing and they are showing signs of urbanisation. This is pushing settlements shoreward causing a stress.

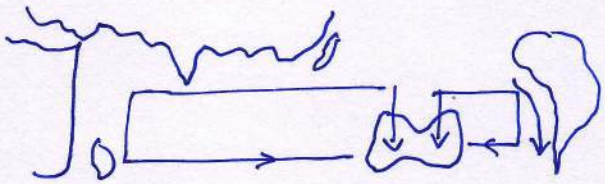
✓ The limited ground water resources are exploited by the growing population. Salinity intrusion caused by rising sea level could aggravate the situation.

✓ Lakshwadeep is located along main oil route between Middle East and SE Asia and oil spillage could also pose a threat.

✓ Overfishing on reefs leads to imbalance in the ecosystem allowing pathogens to become more dominant.

Role of El Nino :-

✓ El Nino is a global climatic phenomenon in which a warm current replaces Humboldt current off the peruvian coast, and this reverses walker circulation.



✓ A band of warm water develops in western pacific, while the Indo-pacific warm pool starts oscillating rapidly. This poses a major threat for coral triangle,

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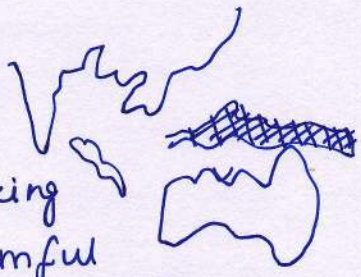
a bioregion in south-east Asia. Even the last big El Nino in 1998 caused major loss.



When temperatures rise, dinoflagellates stop making sugar and produce harmful radicals and their symbiotic relation ends.

The rise in temperatures due to global warming poses huge threat. We need to curb our emissions and create biosphere reserves for coral reefs to protect the rainforests of the ocean.

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3. Transport linkages and government policies are the two most important factors influencing the establishment of Footloose industries. What are the other factors which influence the location of these industries? Discuss in the context of India.

Some industries, like watch and electronics, use a wide range of light raw materials and the attractive influence of each separate material diminishes. These industries, called as footloose industries are located without reference to raw materials as a wide range of locations is possible.

Factors influencing location :-

- Since they are high technology industries (or) sun rise industries, they require skilled labour. Due to need for research and innovation ideas, they are located nearby premier education and research institutes.
- Footloose industries are generally located near greenfield locations. They prefer to be away from the congestion and pollution of urban areas. Another reason is that many electronic components require clean air and skilled migrants will also seek to counter-urbanise. The location of electronic industries in Sriperumbudur on the outskirts of chennai is a classical example.

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- They will also locate themselves near similar industries to swap ideas and establish efficient linkages.
- They will be located near motorway and railway links to provide access to customers and transport components and products.
- They choose land on the edge of cities as it is cheaper than the central urban places. It provides an ideal location for building science and business parks.
- Lack of bureaucratic hurdles and availability of skilled engineers (who had gained reputation in US) in Bangalore was responsible for it becoming the IT hub of India.
- The industries will be located in places with good amenities like schools, hospitals etc as it will easily attract the skilled labour force.

In the coming decades, ~~with~~ we can see an expansion of footloose industries in the countries that will propel our economic growth.

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4. What are the key factors responsible for the development of industrial clusters in India. Discuss with specific examples.

✓Industry clusters are groups of similar and related firms in a defined geographic area that usually share common markets, technology, worker skill needs and often linked by buyer-seller relationship. Industries tend to concentrate in a few pockets because of certain favourable factors.

(major industrial regions)

Mumbai - Pune cluster:-

✓ This region extends from Thane to Pune and in adjoining districts of Nashik and Sholapur. Growth started in this area in 1774 when the island was obtained for construction of Mumbai port.

✓ The opening of railway track (1853), Bhor and Thalghat led to development of Mumbai

✓ The growth of the region is connected to the growth of cotton industry. Hydel power was developed in Western Ghats. Black soil in Narmada and Tapi basins favoured the growth of cotton. cheap labour from hinterland, port to facilitate export and import helped the industry grow.

✓ With it the chemical industry developed too. Opening of Mumbai High petroleum field and

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erection of nuclear power plants became a driving force. The subsequent industries like petrochemicals, fertilizers, pharmaceutical etc developed in the area making it a major industrial cluster in the country.

Chotanagpur cluster :-

✓ The growth of this region is linked with discovery of coal in Damodar valley and iron ore in Jharkhand - Orissa. Power is easily available from dams in Damodar Valley and thermal power stations.

✓ cheap labour is available from nearby states of Jharkhand, Bihar etc. Kolkata is the biggest market for the produced goods. It also has port facility.

✓ Setting up of TISCO, Indian Iron Steel further aided the growth of other heavy engineering, machine tools and heavy electricals in the region.

Industrial clusters are vital for the growth of the country and the government must take pro-active steps to develop these regions further.

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5. Municipal Solid waste management is fast becoming a nightmare for citizens and local authorities in cities across India. Enumerate the steps taken by various municipal bodies to tackle this enornmous problem in India. Can WtE (Waste to Energy) be a feasible solution to this fast growing problem?

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6. India is the 3rd largest producer of coal in the world but commercial production of Coal Bed Methane has not yet started. What are the environmental and economic constraints associated with the production of coal bed methane in India?

✓ Coal bed methane extraction is a method for extracting methane from coal deposit. Though India produces large amount of coal, commercial scale has not yet taken off.

Environmental & Economic constraints :-

✓ Large amounts of water, sometimes saline brine are produced from coalbed methane wells. ~~The~~ Environmentally acceptable disposal of brine is a major cost factor for economic methane production.

✓ The recent Kaveri delta project is being opposed by environmentalists as methane is extracted from great depths. This would lead to salt water encrustation which would render the entire Cauvery plains infertile.

✓ The extraction process is also said to discharge polluted water containing high levels of salt. It has resulted in killing of many plants and animals in the surrounding area.

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- Like other carbon based fossil fuels, burning coalbed methane releases CO_2 in the atmosphere.
- The process of methane productions also results in leak of fugitive methane into the atmosphere, which is harmful.
- India's natural resources of water are limited; and it will be stressed with the growing population. There is also the possibility of aquifier contamination while extracting methane.
- Lack of adequate technology and infrastructure for the extraction process has put stumbling blocks on many projects in India.
- In order to create a safe working environment, the procedure needs large amount of capital. Private-public partnerships will help ease the economic constraint

India must pursue a sustainable approach to coalbed methane extraction to meet the energy needs of the country.

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7. What are Rare Earth Elements? What are their uses? How is India positioned in the global distribution of these resources?

Rare earth elements :-

✓ Rare earth elements are a set of seventeen chemical elements in the periodic table, particularly the lanthanides, scandium and yttrium. Despite their name, they are abundant in nature, but they are very hazardous to extract. They have wide variety of uses.

uses :-

✓ Neodymium is used to make powerful magnets in loudspeakers and computer hard-drives to enable them to be more efficient and smaller.

✓ Lanthanum is used in camera and telescope lenses. compounds containing lanthanum are used extensively in carbon lighting applications - studio lighting and cinema projection.

✓ Cerium is used in catalytic converters in cars, enabling them to run at higher temperatures. They are also in the process of refining crude oil.

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✓ yttrium is crucial in making television and computer screens and devices that have visual displays as they are used in making materials that give different colours.

✓ They are widely used in rechargeable batteries used in electronic devices. They can also be used to power electric and hybrid vehicles.

✓ They have critical defence applications as they are used for making equipments like night vision goggles, GPS equipment and precision guided weapons.

India and rare earth elements:-

✓ India has the fourth largest reserves of rare earth elements in the world with 3.1 million metric tonnes.

✓ Until 1948, most of the world's rare earths were sourced from placer sand deposits in India. India has large reserves of monazite in the Kerala coast.

✓ India's position as a leading supplier was overtaken by China that now controls nearly 90% of the world supply.

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✓ The encouraging factor is that India has recently comissioned a plant to produce upto 5000 tonnes of rare earths a year, which is expected to add five percent to the global supply. This move will benefit countries like Japan that seeks to lessen its reliance on china.

In the electronic age, rare earths have become essential. India needs to bring domestic resources into production and also secure overseas deposits to gain a global advantage.

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8. Hydroflurocarbons have emerged as contentious issue in climate talks. Discuss whether HFCs should be dealt with under Montreal or Kyoto Protocol.

- Hydrofluorocarbons are gases used for refridgeration and air conditioning. They are known as super greenhouse gases because their continual use and high global warming potential could undercut the benefits from reduction of other GHGs.
- They were introduced by the chemical industry to replace chlorofluorocarbons that has been phased out by Montreal protocol. However, with rising threat of HFCs, there is a debate whether to deal it with Montreal or Kyoto protocol.

Under Kyoto protocol :-

- Since HFCs are not ozone depleting, they are kept under kyoto protocol as it contributes to global warming. The are treated as short lived climate pollutants under this treaty.
- It favours common but differentiated responsibilities which many countries are in favour of. With the current rate, it will be responsible for emitting 10 gigatonnes of CO_2 by 2040. The Kyoto protocol also has not been signed by all countries.

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Under montreal protocol

- Montreal protocol is the most significant achievement in the environmental front. It has been responsible for phasing out nearly 97% of ozone depleting substances.
- It is ratified by all countries and will offer a better option to reduce the threat. It would involve a direct regulatory approach, guided by an expert panel, with funding made available to help developing nations meet the cost of adapting affected industries

The way ahead?

- Alternate technologies like HFO-1234yf that has a global warming potential that is 99.7% less than HFC needs to be encouraged in air conditioners.
- The montreal protocol is the right forum to tackle the issue ~~but~~ with reporting and accounting under UNFCCC. The decision must be arrived after a global consensus to tackle the menace.

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9. "Lima call to climate action" represents progress before talks in Paris begin but few would characterise it as a resounding success. Elaborate. In this context what are the key pillars of India's stand on climate negotiations heading to the Paris round.

✓ The Lima Talks has been widely criticized for stalling progress on tackling climate action. The developed countries did not pledge to reduce their emissions from now until 2020. They also did not give any concrete assurance to provide finance & technology to developing countries.

✓ The principle of common but differentiated responsibility has been further diluted with the provision of Intended Nationally Determined contributions where each country can decide their limits without any legal scrutiny.

✓ The developed countries are opting for a mitigation centric plan that will absolve them of their historic responsibility.

✓ However, the concept of INDCs has provided a common ground for countries to take further action on paris talks.

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India's stand:-

- India must ensure its path to development but at the same time we must increase share of renewables in our energy mix which will be our way of contributing to climate change.
- India must insist that there should be no reference to its annual emissions reduction till it achieves stabilisation. India can propose to peak its emissions in 2050.
- India can commit to a 25-30% reduction in intensity of carbon emissions below 2005 levels by 2025.
- We must take the lead in securing timelines and commitments on finance and technology. This would ensure support from small island developing states.
- We must apply pressure on developed nations to focus on an adaptation-centric approach with CBDR.
- India must take the leadership in 2015 Paris talks to create a meaningful stance in protecting the environment.

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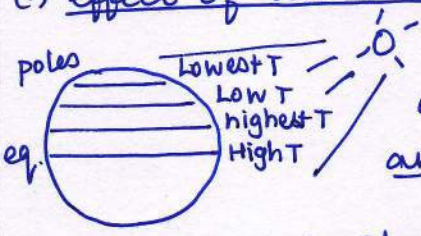
10. "Change in latitude and altitude leads to variation in temperature and vegetation". Analyze.

✓ Latitude and altitude are important factors that influence temperature and vegetation.

Temperature:-

(i) effect of latitude :-



✓ The temperature of a place depends on the amount of insolation received.

✓ The amount of insolation decreases poleward from the equator because the sun's rays are more oblique towards poles and vertically overhead at the equator.

✓ The temperature generally decreases from equator to poles but the maximum temperature is experienced in 20°N because in equator, major portion of insolation is reflected by clouds and in heat is lost via evaporation.

(ii) effect of altitude :-

✓ The temperature decreases with increasing height at an average rate of 6.5° c/Km.

✓ The major source of atmospheric heat is earth's surface from where heat is transferred via radiation, conduction & convection. So, the portion of atmosphere coming into contact with earth's surface gets more heat than the part lying above.

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✓ The layers of air near earth's surface are denser and it contains more water vapour and dust particles than the upper layer. So, it absorbs more amount of heat radiated than the upper layers.

Vegetation :-

(i) effect of latitude :-

✓ The equatorial regions receive lots of sunshine and abundant rainfall that supports the growth of rainforests.

✓ In the mid-latitudes, there is little amount of rain due to subsidence of air masses. Here, evaporation exceeds precipitation and there is arid vegetation.

✓ In the warm temperate zones between 30°-45° N,S moderate rainfall supports growth of grasslands

✓ In the higher latitudes, very low temperatures result in coniferous forests and in the polar regions, only mosses and lichens can be seen.

(ii) effect of altitude :-

✓ As the altitude increases, the climate changes with air becoming colder and drier, affecting vegetation.

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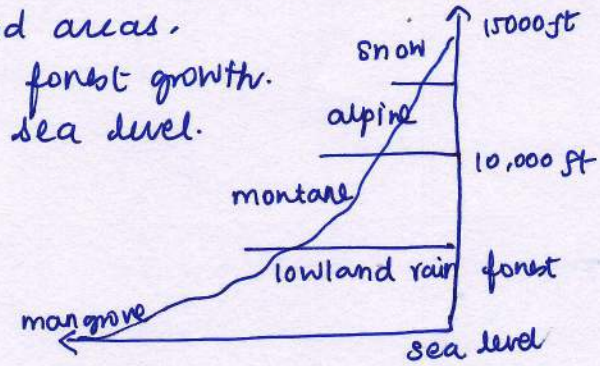
✓ In ~~tropical~~ lowland areas, there is luxuriant forest growth. mangroves occur at sea level.



✓ At high altitudes, air pressure is less and CO_2 is greatly reduced. growth becomes stunted and trees become smaller and we see growth of lichens and mosses.

✓ In the sub-alpine areas, the forests are dotted with meadows and deciduous trees.

The impact of latitude and altitude has given us a rich variety of vegetation and diversified climatic conditions in the world.

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11. It has been observed that the ozone hole develops over Antarctica, and not over manufacturing centers where chlorofluorocarbons are released prodigiously. How can you explain this phenomenon? Examine the possible health and environmental impacts of ozone depletion.

✓ Ozone depletion describes a steady decline of about 4% per decade in total volume of ozone in Earth's stratosphere. Though much of the depleting activity originates from other continents, ozone hole forms prominently over Antarctica.

✓ The ozone hole first appeared over Antarctica because atmospheric and chemical conditions unique to this region increases the effectiveness of ozone destruction by reactive halogen gases.

✓ The Antarctic weather is the only weather cold enough to form polar stratospheric clouds which does not happen in other regions.

✓ In these clouds, chemical reactions converts chlorine/bromine from CFCs to an active form, so that when there is sunlight, ozone is rapidly destroyed.

✓ By the time spring arrives and the sun comes back after long polar night, ozone levels are severe depleted. The prolonged period of sunshine only makes the condition worse.

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Health impacts :-

✓ Ozone depletion leads to increased UV radiation which is said to cause cancer in skins. This phenomenon is quite prevalent in Australia.

✓ It is also said to cause malignal melanoma and cortical cataracts.

✓ Increase in tropospheric ozone is recognized as a health risk due to its strong anti-oxidant properties which makes it toxic.

Environmental impacts :-

✓ An increase in UV radiation affects crops like rice that are dependent on cyanobacteria residing on their roots for retention of nitrogen. The bacteria gets affected leading to failure of crops.

✓ Exposure to radiation has shown to affect orientation mechanism and motility on phyto-plankton resulting in reduced survival. This affects the food web and subsequently the entire marine ecosystem as phytoplankton ~~must~~ forms the basic unit of food web.

Thus, urgent global action needs to be taken by all countries to tackle the menace of ozone depletion for a sustainable future.

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12. Though the clamour for cleaner rivers has gained momentum in recent times, the task of reducing the pollution load of River Ganga is daunting. What are the major obstacles with respect to river cleaning projects in India? Critically examine the steps taken by the government in cleaning the Ganga.

✓ Ganga is considered to be the holiest river in the country. With increasing levels of pollution, the existence of river is threatened. Inspite of various measures being taken, clean ganga is yet to become a reality.

Major obstacles :-

✓ Massive inflow of sewage and industrial effluents makes the river clean-up a complicated mission. Daily, nearly 2700 million litres of wastewater are discharged while we have capacity to treat only 44% of it.

✓ The construction of dams along the course of river (eg: Tehri) has blocked the sediments reducing ganga's self-purifying ability.

✓ The river flows through ~~5~~ states. They ~~not~~ have not been able to arrive on a consensus due to political differences.

✓ The central pollution control board has been ineffective in preventing the industrial discharge.

✓ Growing population and people's indifferent attitude and harmful traditions are proving to be a major challenge.

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Government measures :-

✓ The major schemes implemented were the Ganga Action Plan (phase I and phase II) and the National Ganga River Basin Authority, which proved to be failures.

✓ Undue investment on technical aspects like creating sewage treatment plants without involving people on the banks is a major reason. The social aspects of pollution was ignored, and an engineering - centric approach was adopted.

✓ The ~~governm~~ schemes also had ~~vari~~ officers who handled various other posts and there was no strong motivation.

✓ The schemes sought inputs only from instit-uti ons like IITS while it should have approa-ched various institutes of social sciences.

✓ It failed to control the encroachment of catch-ment areas that has reduced retention capacity of river.

~~Thus~~, ✓ The newly constituted National Mission for clean ganga, incorporating its name in the ministry, involving NRIs and strong political leadership shows that we are on the right track.

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13. "The potential of Inland Water transport (IWT) to encourage and support increased economic and social development is enormous". Discuss the factors responsible for the slow growth of IWT in India with special emphasis on geographical limitations. Enumerate some steps taken by the government in order to make this form of transportation competitive with respect to rail and road.

✓ Inland Water Transport is a fuel efficient and environment friendly mode of transportation which has vast employment generation potential. It's immense potential has not been tapped and it contributes to only 1% of total transport in India.

Slow growth of IWT:-

✓ Most navigable waterways suffer from problems like shallow water and narrow width of channel during dry weather. This problem usually occurs in rivers that are non-seasonal in nature.

✓ Increased deposition in the Himalayan rivers has resulted in meandering and silting of river beds that make it difficult for transport. Siltation has reduced navigability in Buckinghama canal.

✓ Reduced flow due to diversion of water for irrigation (eg: Ganga) has made it difficult for the steamers to ply.

✓ Smooth navigation is hindered due to waterfalls, cataracts and sharp bends in the course of river. eg: Narmada Tapi

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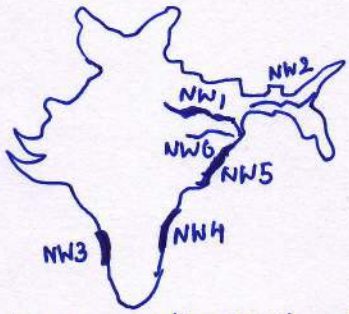
- Apart from these, absence of adequate infrastructure facilities like terminals for loading and berthing and surface road links prove to be a problem.

Steps taken by government:-

- To improve the IWT sector, the Inland Waterways Authority of India was set up. It has financial powers to sanction schemes involving capital expenditure upto Rs. 15 crores
- Six national waterways have been declared by the government to improve transport facilities by giving greater focus.
- The Directorate General of Shipping has granted exemptions to Indian ships exclusively carrying cargo on local routes.
- Private investment needs to be ramped up in the sector to improve the infrastructure facilities in the existing water-ways.



- Thus, the IWT needs to be developed in a holistic manner so that more population living in remote areas can be part of the inclusive growth of our country.

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14. Noise pollution is one of the emerging environmental concerns in India. Bring out the underlying factors and list the legislative measures adopted to tackle the issue.

✓ Noise pollution is the disturbing or excessive noise that may harm the balance of human and animal life. The major sources are machines and transportation systems. It has become a menace in our country that needs to be addressed quickly.

Environmental concerns :-

✓ Noisy areas lead to reduction of usable habitats for wild animals. In the case of endangered species, it will hasten the process of extinction.

✓ It can increase the death by changing delicate balance in prey detection and avoidance and interfering in sounds of animal communication. Acoustic overexposure can lead to loss of hearing in animals.

✓ Noise makes species communicate more loudly, which is called lombard vocal response. The animals' noises masked by anthropogenic sounds may make them victims of prey. It will lead to a situation where the whole ecosystem will speak loudly.

✓ It has been found that noise pollution can lead to poor quality of crop growth.

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Steps taken by government:-

✓ For better regulation of noise pollution, the government enacted The Noise Pollution Rules, 2000 that specifies air quality standards and gives power to state government to take measures for abatement of noise.

✓ Under law of torts, a civil suit can be filed to claiming damages for the naisance created by noise pollution.

✓ In the modal rules of Factories Act, limits for noise exposure for work zone area have been prescribed.

✓ Even, the constitution under Article 21 has interpreted right to life includes to live in peace and comfort without noise

✓ In 2011, the Central Pollution Control Board established the first part of noise polluting monitoring network in 35 major cities in India.

✓ Measures such as not bursting crackers after 10 pm & banning use of speakers for religious propagation are laudable.

At present, there is no specific legislation to control noise pollution. The government should pass the Noise Pollution Control Act, enact a city noise control code for major cities and incorporate preventive measures in planning process.

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15. Jute, "The Golden Fibre" enjoys significant ecological and economic advantages over other fibres yet it has been struggling to survive. In this context, discuss the problems associated with the Jute Industry in India. To what extent can the Jute Technology Mission address the same?

✓ The jute industry is a very old industry in our country, predominantly in the eastern part. Inspite of being cheap and eco-friendly, the industry faces many setbacks.

Problems faced by the industry :-

✓ The first major setback was due to partition of the country in 1947 when 81% of the jute output went to erstwhile East pakistan. The acute shortage of raw jute has been a problem since then.

✓ Most of our customers could not get Indian jute products during world war II as a result of which several countries developed many substitutes for jute. Today, our jute industry faces tough competition from synthetic packing materials of western countries.

✓ Our mills do not have high quality machines and our edge in market is lost to Bangladesh that are able to produce much better products.

✓ Since equipments used in production are outdated, there is a high cost of production which makes the products costlier and unviable.

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✓ Storage of raw jute and shortage of power supply leads to under-utilization of existing capacity.

Jute Technology Mission :-

✓ The Jute Technology Mission seeks to address the problems ailing it and reviving the moribund industry. The mission will be operationalised through four mini-missions.

✓ Mission-I will focus on strengthening research & technology activities for development of improved varieties and protection technologies for jute and allied crops. This will ensure availability of good quality seeds and short duration crops to jute growers.

✓ mission-II seeks to transfer technology through extension to farmers. This will enable improvement in quality of crops.

✓ mission-III will try to develop efficient market linkages and update infrastructure facilities. This will help farmers to get a fair market price and reliable information.

With growing environmental concerns, India can utilize the opportunity to revive its jute industry and emerge as a global leader.

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16. Account for the change in spatial pattern of the Pharmaceutical industry in India. Elaborate on prospects of this industry in the country.

The pharmaceutical industry in India is the world's third-largest in terms of volume. The Indian pharma industry is dominated by foreign companies having subsidiaries in India due to cheap availability of labour.

Changing spatial pattern:-

Shifting location of pharma industries

- The pharmaceutical industry grew in Bombay, Gujarat and Baroda during WW1 due to steep increase in local demand for allopathy medicines and stoppage of imports
- During WW2, western companies began to set up their operations in Mumbai. The reason for its growth in western region was the development of chemical industries in the area. This ensured availability of raw materials for medicinal preparations.
- In 2002, ~~the~~ Himachal pradesh and other hill states offered excise duty exemption on finished products, income tax exemption and capital investment subsidy in plant and machinery. Sikkim was included in North East ~~and~~ Industrial & Investment promotion policy 2007

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as a part of which the industries got subsidy. Also, the cold climate favours medicinal preparations. This saw a shift of industries from Gujarat to hill states.

✓ In the hill states, the industries faced technical manpower shortage and power failures which increased their operational costs.

✓ Once the tax holiday ended in 2010, the industries have started to relocate to Gujarat and Maharashtra where SEZs are created for them.

Prospects:-

✓ India has a vast pool of trained pharmaceutical scientists, doctors & researches which opens up avenues for joint research.

✓ Low cost of skilled manpower, manufacturing and operations will result in many companies to make in India.

✓ growing per-capita income of the population will increase affordability of medicines. Increased life expectancy has resulted in a significant old age population who need medicines

✓ India's production of generic medicines could be utilized to tap the rural area

With proper pricing policies, IPRs and innovative solutions, Indian pharmaceutical industry should look to alleviate the health problems in the country.

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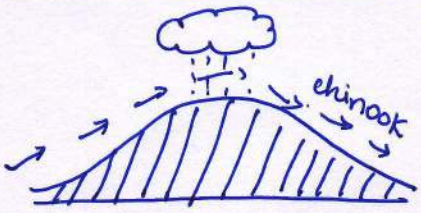
17. Illustrate the socio-economic significance of local winds across the world with special emphasis on India.

✓ Local winds are small scale convective winds of local origin caused by temperature differences. They are strongly influenced by local terrain. Besides having impact on the climatic conditions, they also have socio-economic importance.

Chinook and Foehn :-



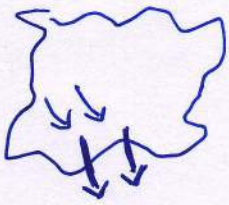
✓ Warm and dry local winds blowing in leeward sides of mountains are called chinook in USA and Foehn in switzerland.

✓ During winter, chinook rises the temperature and green pastures are open along the eastern slopes of Rockies. This helps in early sowing of spring wheat.

✓ Foehn also helps in early sowing and ripening of grapes.

Mistral :-

✓ Mistral is a cold local wind which blows in Spain and France from north-west to south east direction.



✓ It is known to bring good health since the dry air dries stagnant water and the mud. It also blows away pollution from the skies over large cities and industrial areas.

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- The wind is capable ~~fi~~ of drying up the local vegetation making it susceptible to forest fires.

Loo :-

- The Loo is a strong, hot and dry summer afternoon wind which blows over western Indo-gangetic plain in North India.
- Many birds and animals succumb to loo in summer months, especially in deforested areas.
- Insect population reduces and hence the chances of malaria has also gone down.

Mango shower :-

- Towards the end of summer, there are pre-monsoon ~~showers~~ winds which are common in Kerala and coastal Karnataka. They help in early ripening of mangoes.

Kalbaisakhi is useful for tea, rice and jute cultivation in Assam and West Bengal.

Thus, the local winds play a major role in determining the economy and lifestyle of a particular area.

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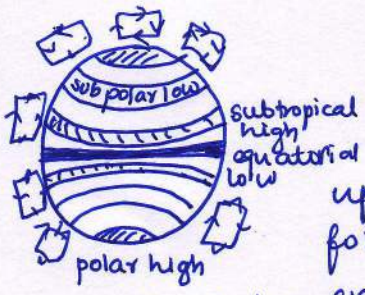
18. How do global pressure belts explain the formation of climatic regions across the world?

✓ Pressure belts are identifiable zones or bands of homogenous pressure regimes. There are seven pressure belts in the world – equatorial low, sub-tropical highs, sub-polar lows and polar highs.

(i) Equatorial low pressure belt



✓ This belt lies between 10°N and 10°S. Due to intense heating, air gets warmed up and rises over the region forming pressure belt. It is characterized by extremely low pressure with calm conditions. Surface winds are absent. Due to intense heating, there is convection and abundant rainfall with high humidity.

(ii) Sub-tropical high pressure belt:-

✓ The sub-tropical highs extend from near the tropics to about 35° N and S. The high pressure is due to subsidence of air coming from equatorial regions which descends after becoming heavy. The subsiding air is warm and dry and hence most deserts are found along this belt. The belt is also frequented by tropical and extra-tropical disturbances.

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(iii) Sub-polar low pressure belt :-

✓ This belt is located between 45° N and S latitudes and the Arctic and Antarctic circles. The low pressure exists along the belt due to ascent of air as a result of convergence of westerlies and polar easterlies.

✓ Due to great contrast between the temperatures of the winds from sub-tropical and polar source regions, cyclonic storms or lows are produced in the region.

✓ The region is characterized by moderate rainfall and cool climate

(iv) Polar high

✓ Due to extremely cold temperatures at the poles, there is subsidence of air causing the polar high pressure belt.

Thus, the ~~pol~~ pressure belts play a major role in determining the climatic regions of the world.

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19. The recent oil spill in Sunderbans has been termed as an ecological catastrophe by environmentalists. In light of the above fact explain the impact of oil spill on marine ecosystem. Further, suggest some measures required to deal with this environmental risk.

Oil spill is the release of liquid petroleum hydrocarbon into marine areas due to human activity. The recent Sunderban oil spill has affected the ecosystem greatly.

Impact of oil spill:-

- The spill occured in a protected area, which is home to rare Irrawady and Ganges dolphins. The smell of oil will make it difficult for wild animals to breathe.
- It poses a major threat to food cycle as it affects the microorganisms that constitute the primary level.
- A thick layer of oil deposits on the surface of river which cuts down the supply of dissolved oxygen.
- When high tide occurs, mangroves go under water and once the water recedes, the oil layer covers the vegetation and enters the soil causing damage.
- The oil penetrates into plumage of birds and fur of mammals reducing its insulating capability and making them vulnerable to temperature fluctuations.

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- It also affects birds' ability to fly, confuses animals that rely on scent and harms the digestive tract.

Measures :-

- A no-go zone must be declared near protected areas and commercial vehicles must be prevented from passing through.
- Environmental Sensitivity Index Mapping must be used to identify sensitive shorelines in order to prepare for protection strategies. By planning ahead, impact on environment can be reduced.
- Bioremediation by using biological agents like Alcanivorax to break down the ~~sol~~ oil can be employed.
- Solidifiers like hydrophobic polymers can be used that clean up oil leaks by changing physical state of oil.
- A stringent law must be passed to curb the menace of oil ~~p~~ leakage. International collaboration can be undertaken with similarly intrsted countries eg: Ind-Bang.
- Thus, the menace of oil pollution needs to be curbed holistically with immediate effect by involving multiple stakeholders.

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20. TSR Subramanian report on environmental laws emphasized that the problem with respect to environment in India is not of legislative deficit but of Institutional and implementation deficit. Discuss and suggest measures to overcome the above problem.

- India has one of the strongest legislative framework regarding environment in the world but faces continuous environmental problems due to institutional and implementation deficit
- An umbrella organization called the National Environment Management Authority (NEMA) along with state bodies (SEMA) needs to be set up. They will be in charge of project clearances and monitoring compliance with environmental regulations.
- Bodies such as central and state pollution control board will be subsumed under NEMA and SEMA to avoid duplication of work.
- The NEMA will be insulated from political interference. It will have a strong legal cell so that they can process cases, conduct proper investigation and prosecution.
- The project proponent will inform government about quantum of pollution from industrial unit. He/she will be required to submit a compliance report that will be placed in public domain. Failure to provide information will lead to severe penalties.

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- Greater use of technology via satellite, GPS GIS to ensure that the industries follow environmental safeguards will be employed.
- Special environmental courts will be set up at the district level, chaired by a sessions judge. Above that, one or more appellate boards comprising of serving secretaries to GoI and HC judge will adress the issue of dispute resolution. The National Green Tribunal will continue to have its powers of technical and judicial review.
- An environmental reduction cost should be assessed for each project on the basis of damage caused ~~by~~ to environment and should be added to cost of project. It should be recovered as cess or duty from project proponent during life of project. A fund needs to be constituted for the purpose.
- A separate cadre of Indian Environmental Service needs to be created to usher in highly skilled people with best practises.

The need of the hour is to ensure laws are implemented with greater responsibility, accountability and transparency, so that our environment can be conserved efficiently.

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